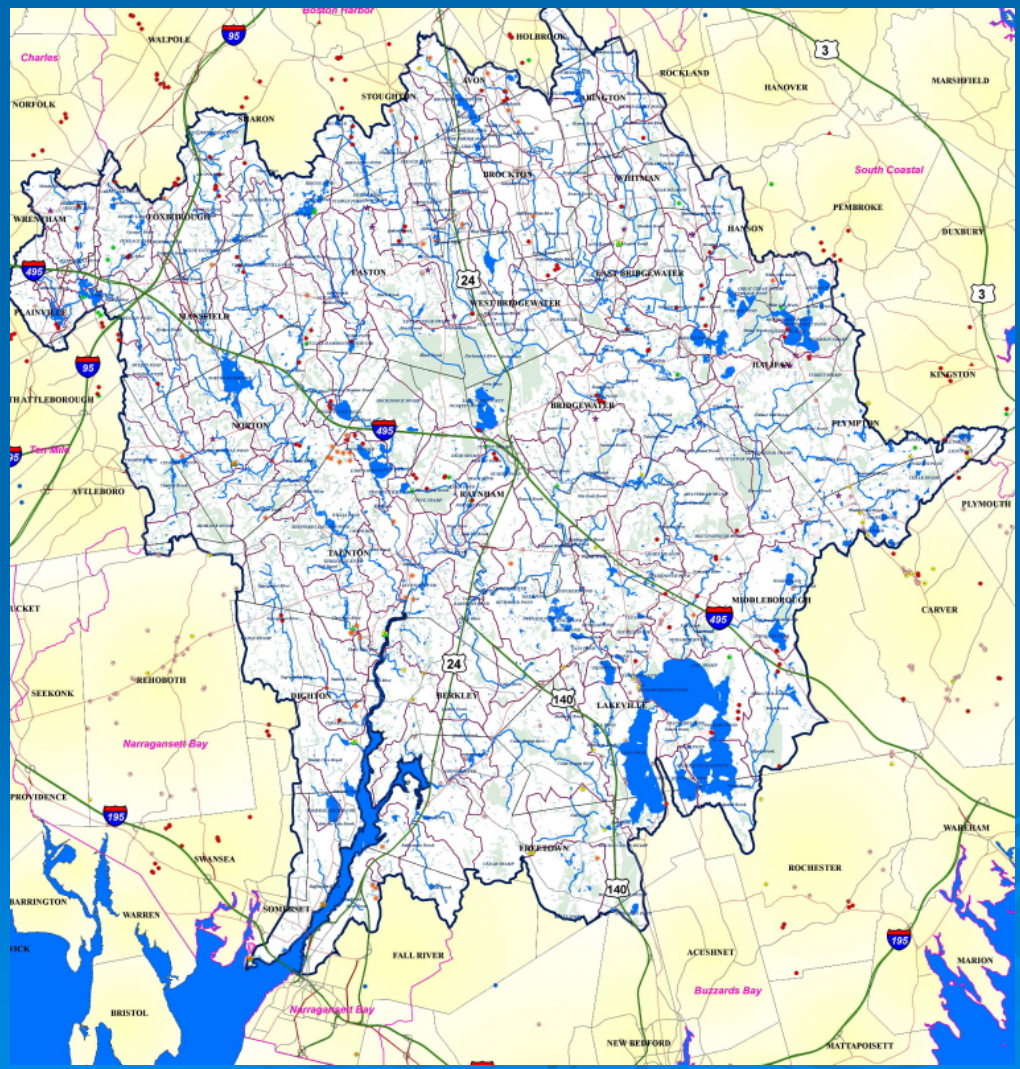
2007

Taunton River Watershed Study Public Meeting Presentation (November 2007 Interactive Public Meetings)

Horsley Witten Group, Inc.

Taunton River Watershed Study

Public Meeting, November 2007



Horsley Witten Group

Today's Agenda

3:00 pm	Introduction/Project Overview
3:15 pm	Introduction to Group Discussion Activity
3:30 pm	Break up into Groups
4:10 pm	Group Feedback
4:40 pm	Wrap-up
4:50 pm	"Dot voting"
5:00 pm	Adjourn

Horsley Witten Group

Taunton River Watershed Study Overview

- Funded through a legislative earmark
- Managed by Bridgewater State College
- Steering Committee:
  - Bridgewater State College's Watershed Access Lab
  - MA DCR, MA DEP, MA EOEEA
  - The Nature Conservancy
  - SRPEDD, OCPC

Horsley Witten Group

Taunton River Watershed Study Goal

To restore and maintain
a hydrologically and biologically connected
and integrated watershed system
that will sustain healthy humans and wildlife.

Horsley Witten Group

Two Phases to the Study

- Phase 1 - Data Gathering (Now)
  - Gather information and data for a study of the Taunton River Watershed and
  - Begin to develop a long-term vision and strategy for the sustainable management of the Taunton River Watershed

- Phase 2 - Develop a Watershed Management Action Plan (Future)

Horsley Witten Group

Study will focus on:

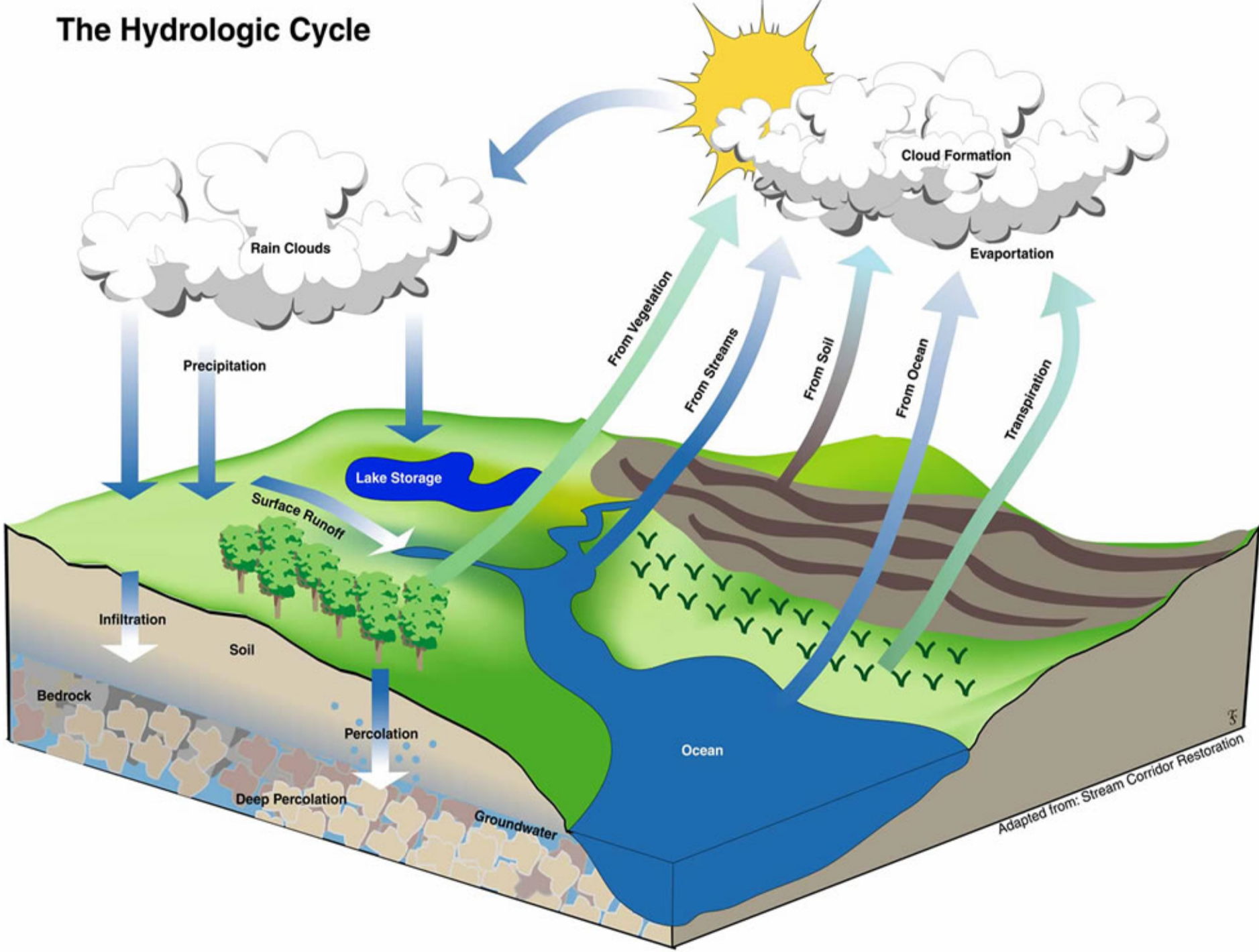
- Water Budget
  - Stormwater
  - Wastewater
  - Drinking Water Supply
- Smart Growth and LID
- Habitat

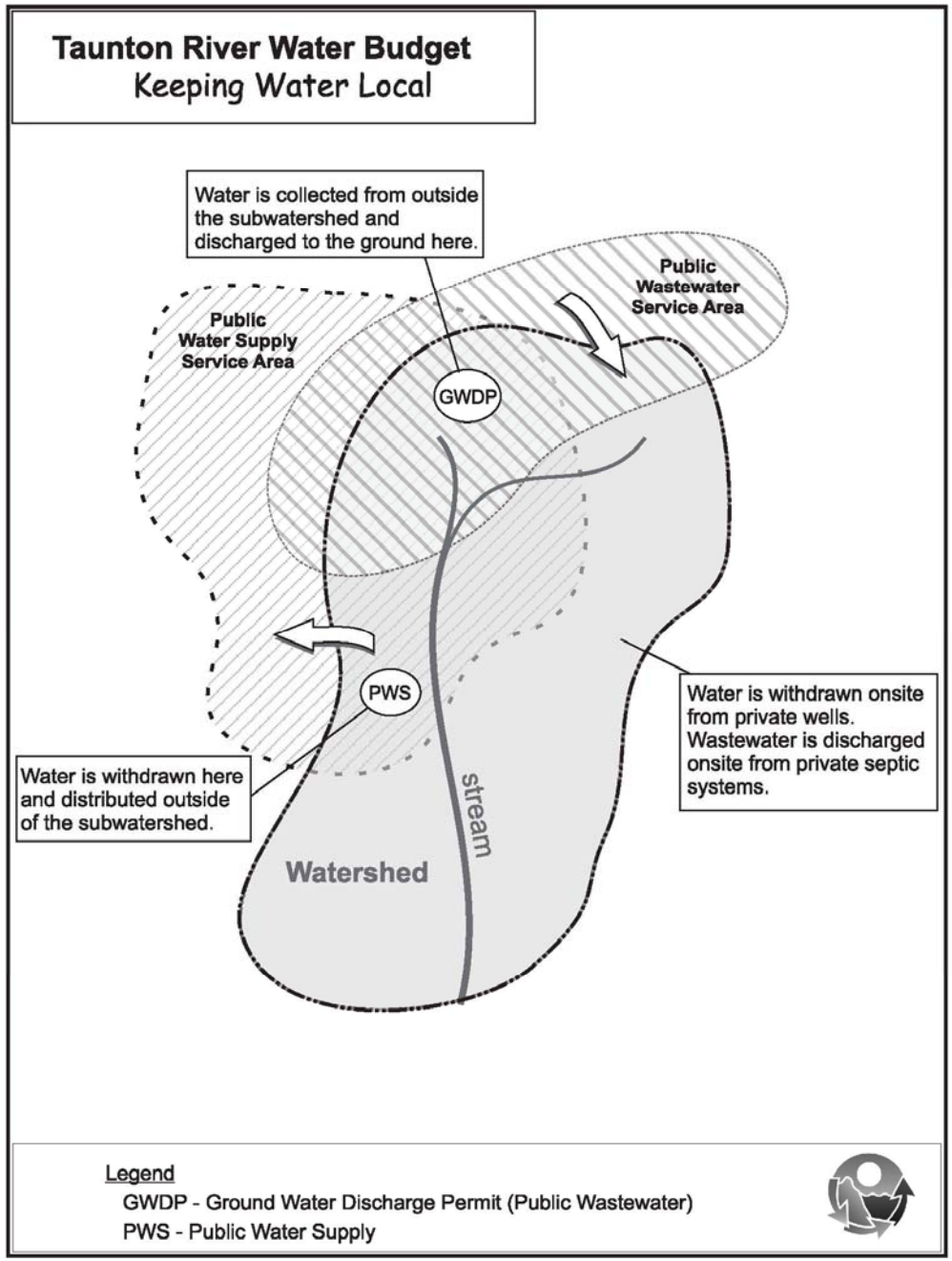
Horsley Witten Group

Water Budgets

- Help assess and evaluate critical management measures related to stormwater runoff, wastewater treatment and water supply.

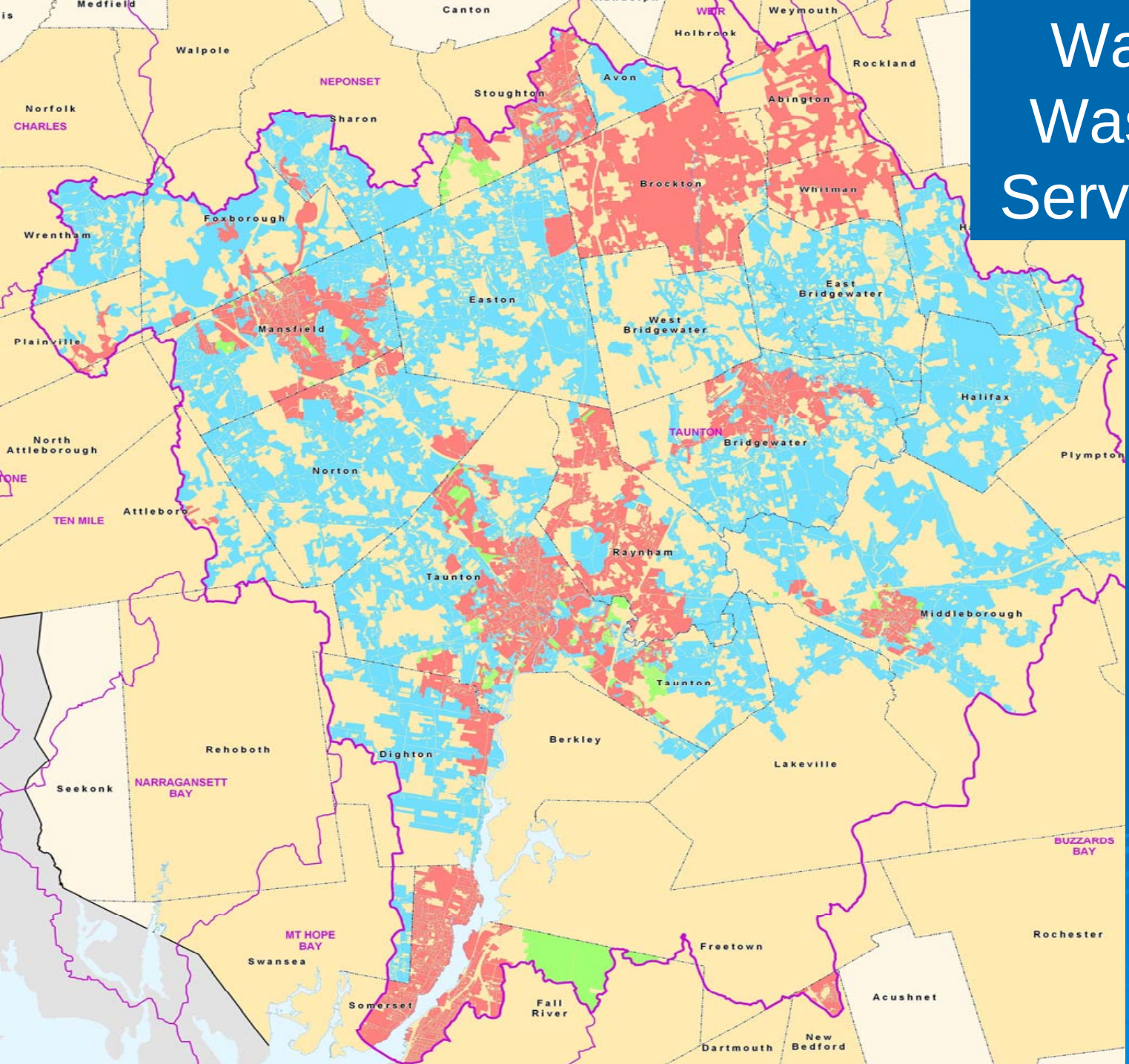
- Help prioritize specific subwatersheds for restoration and protection of vital water resources.


The Hydrologic Cycle
Cloud Formation
Rain Clouds
Evaportation
From Vegetation
From Streams
From Soil
From Ocean
Transpiration
Precipitation
Lake Storage
Surface Runoff
Infiltration
Soil
Bedrock
Percolation
Deep Percolation
Groundwater
Ocean
Adapted from: Stream Corridor Restoration

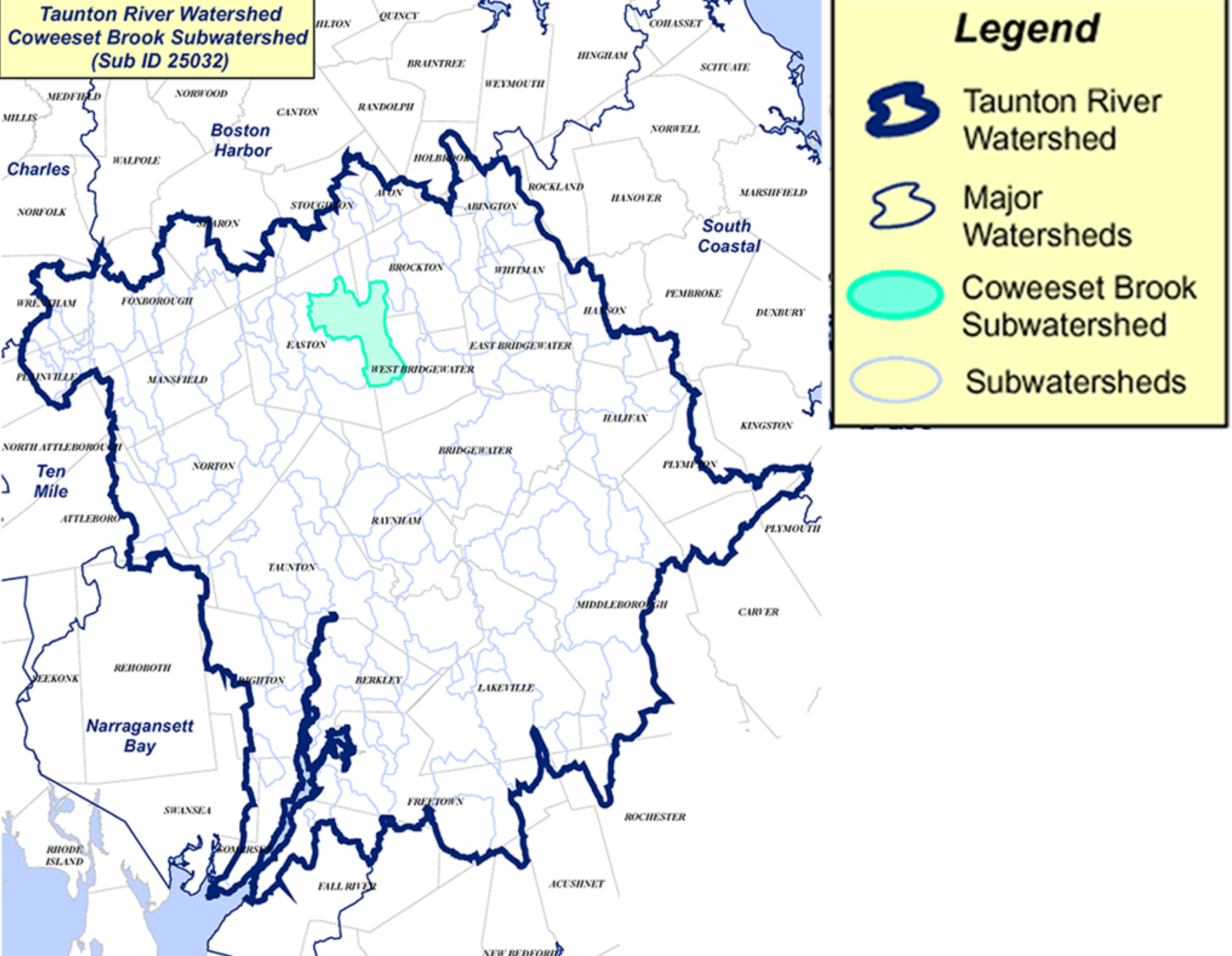


Horsley Witten Group

Water and Wastewater Service Areas



Horsley Witten Group


Taunton River Watershed
Coweeset Brook Subwatershed
(Sub ID 25032)
Legend
Taunton River Watershed
Major Watersheds
Coweeset Brook Subwatershed
Subwatersheds
Boston Harbor
Charles
South Coastal
Ten Mile
Narragansett Bay
QUINCY
HILTON
BRAINTREE
WEYMOUTH
HINGHAM
COHASSET
SCITUATE
MEDFIELD
NORWOOD
CANTON
RANDOLPH
MILLIS
WALPOLE
NORWELL
HOLBROOK
ROCKLAND
HANOVER
MARSHFIELD
NORFOLK
STOUGHTON
AVON
ABINGTON
SHARON
BROCKTON
WHITMAN
PEMBROKE
DUXBURY
FOXBOROUGH
HANSON
EASTON
EAST BRIDGEWATER
WEST BRIDGEWATER
MANSFIELD
HALIFAX
KINGSTON
BRIDGEWATER
NORTON
PLYMPTON
ATTLEBORO
RAYNHAM
PLYMOUTH
TAUNTON
MIDDLEBOROUGH
CARVER
REHOBOTH
BERKLEY
LAKEVILLE
SWANSEA
FREETOWN
ROCHESTER
RHODE ISLAND
FALL RIVER
ACUSHNET

Smart Growth and LID

- One case study of one municipality
- Examine how the adoption of smart growth practices in the municipality will enhance the quality of life and environmental health of that community
- Successes to date and areas needing improvement (including recommendations for revisions in local By-Law, building codes, health codes, etc.) will be provided

Horsley Witten Group

SMART GROWTH toolkit

Home

Smart Growth Techniques

Case Studies

Slideshows

Model Bylaws

Links

Glossary

Acknowledgements

Interactive Case Study Map

Integration of Smart Growth into Comprehensive Planning

This Toolkit provides easy access to information on twelve different planning, zoning and subdivision techniques that will make smart growth a reality in your community. The materials are designed to increase understanding of smart growth tools and how to customize the techniques to local circumstances. The commonwealth encourages communities to pass and implement these smart growth measures.

Click here to view poster!!

Planning - the importance of context to successful implementation of smart growth

Successful implementation of these measures will require planning. Adoption of any of the 12 techniques included here will require customization, and communities should never simply copy and use model bylaws, either those provided here or elsewhere, without modifications to address circumstances within the community. Ideally, users of this toolkit will take a comprehensive approach to achieving smart growth. At a minimum, once a decision has been made to pursue implementation of a particular technique, such as open space residential design, community meetings will be needed to answer basic questions and how the model provided should be customized.

Home

Smart Growth Techniques

Case Studies

Slideshows

Model Bylaws

Links

Glossary

Smart Growth Techniques

Transfer of Development Rights (TDR)

Traditional Neighborhood Development (TND)

Transit Oriented Development (TOD)

Open Space Residential Design (OSRD)

Accessory Dwelling Units (ADU)

Agricultural Preservation

Low Impact Development (LID)

Inclusionary Zoning

District Improvement Financing (DIF)
Tax Increment Financing (TIF)

Chapter 40R

Reuse: Brownfields

Water Resource Management

Home

Smart Growth Techniques

Case Studies

Slideshows

Model Bylaws

Links

Glossary

Low Impact Development (LID)

In Brief: Low Impact Development (LID) is a more sustainable land development pattern that results from a site planning process that first identifies critical natural resources, then determines appropriate building envelopes. LID also incorporates a range of best management practices (BMPs) that preserve the natural hydrology of the land.

The Problem

Large Impervious Surfaces

Development patterns based on conventional zoning codes in Massachusetts often result in "sprawl" with its associated large impervious areas, loss of natural areas, and alteration of hydrologic systems. Too often, the development process begins with the clearing and leveling of an entire parcel. Conventional developments that follow, commonly contain wide roads and large parking lots. These large impervious areas prevent water from infiltrating into the ground (which normally replenishes groundwater supplies and supports nearby wetlands and streams with baseflow) and convey polluted runoff into waterbodies. In order to deal with water that runs off of these sites, structural stormwater controls such as catch basins, pipes, and detention ponds are used. Conventional landscaping of these developments brings additional concerns including the introduction of non-native plants, use of herbicides, pesticides and fertilizers, and excessive water consumption.

Habitat

- Priority areas of concern will be selected on the basis of natural (pre-existing), current, and future conditions

- Analysis will include the presence of rare species and other priority species habitat, natural communities, location within a water supply recharge area, open space, water quality characteristics, and other ecological functions.

Habitat

- Outstanding attributes of the Taunton Watershed:
  - Longest undammed coastal river in New England
  - Over 154 bird species, 45 fish species, 360 plant species
  - 3 globally rare plants, 1 globally rare fish
  - Globally rare freshwater and brackish tidal marsh habitats
  - Largest alewife run in the state
  - Largest freshwater marsh system in MA

Habitat

Alewife *photo: Tim Watts*

Hockomock Swamp *photo: Alison Bowden*

Pygmy clubtail dragonfly *photo: Fred SaintOurs*

Horsley Witten Group

Watershed Study –Phase II Development of a Management Plan

1. Goals
2. Objectives
3. Background and Existing Conditions
4. Additional Data Collection and Analysis Needs
5. Watershed Tools and Management Approaches
6. Implementation Plan

Horsley Witten Group

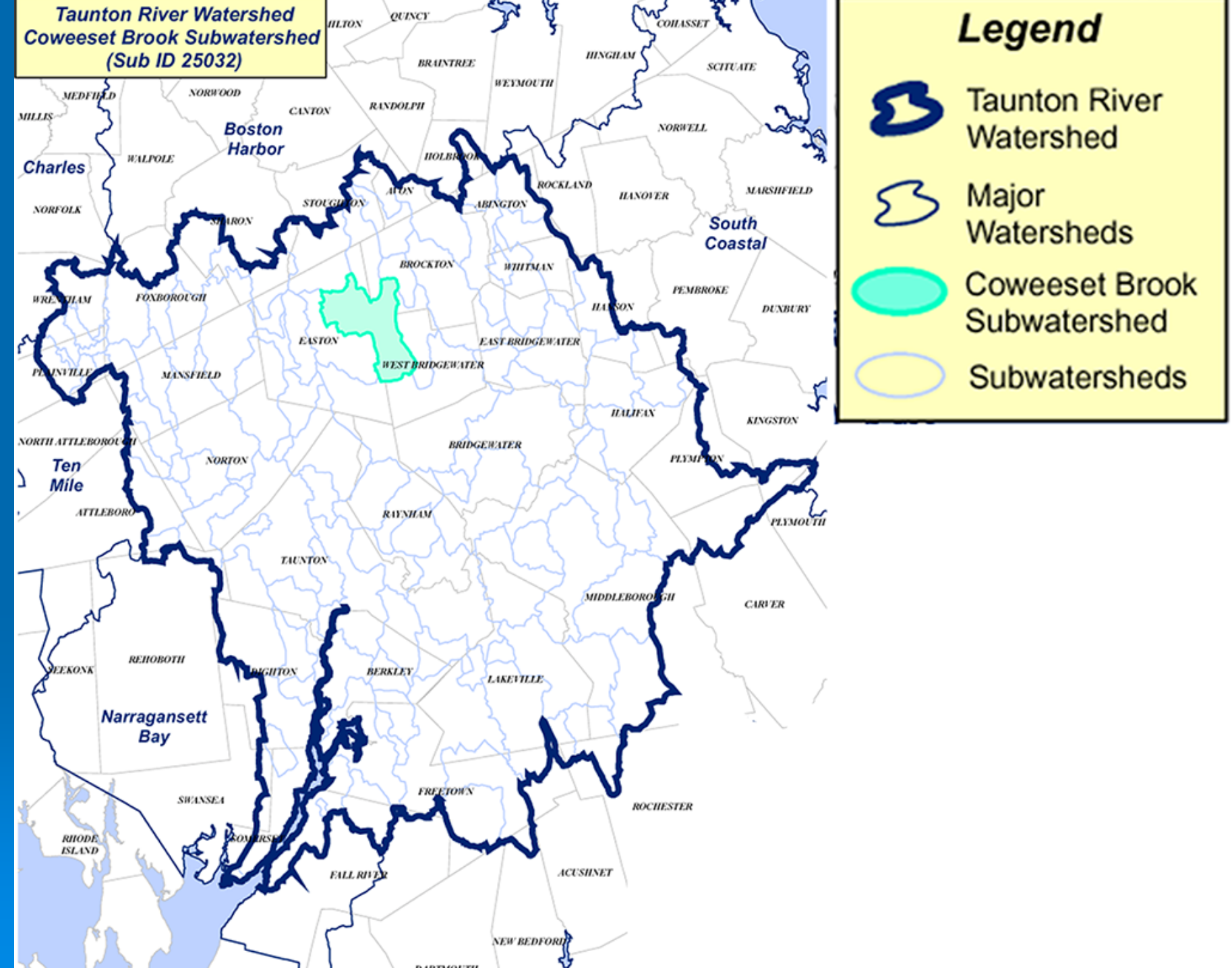
Today's Activity

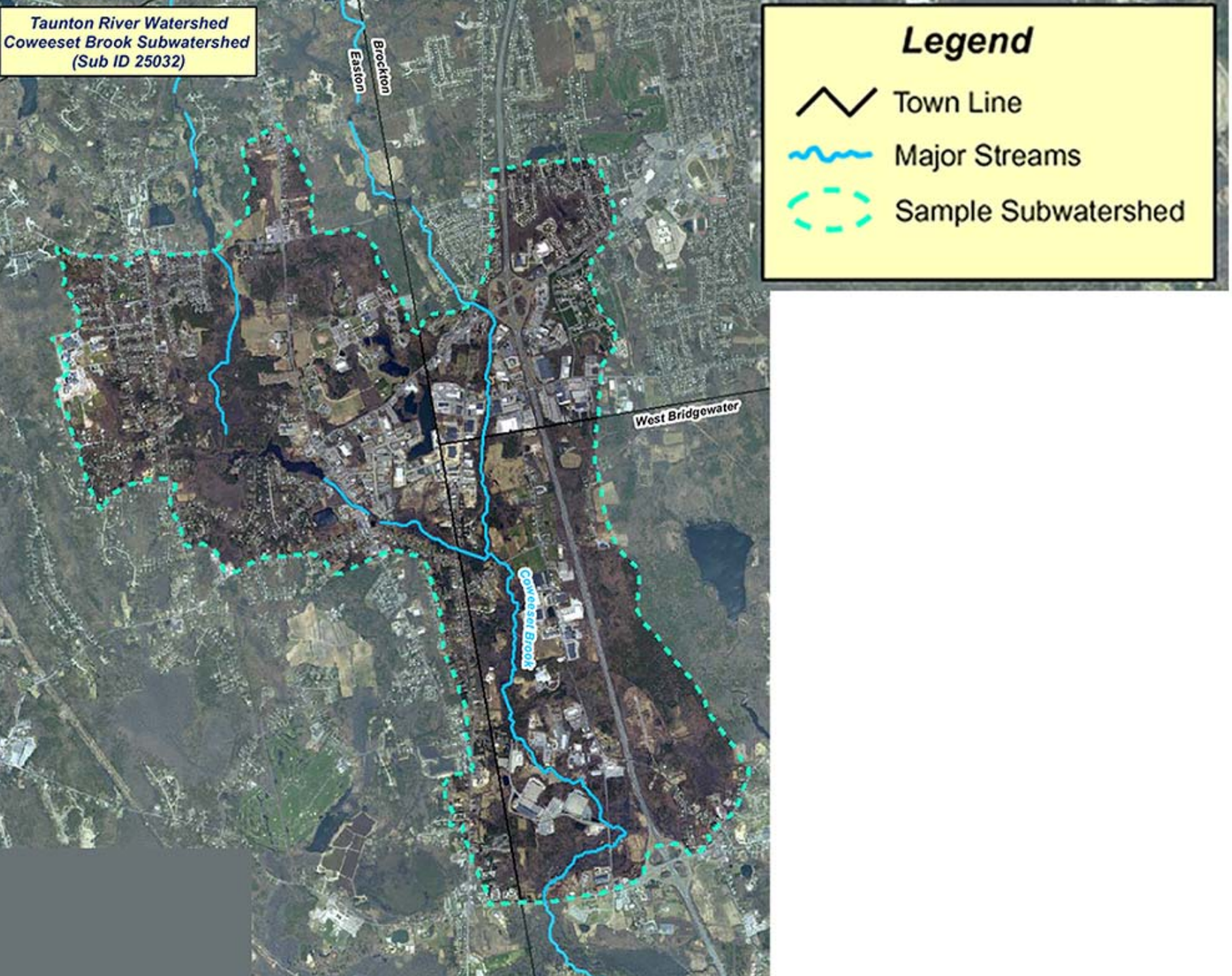
Goal: Identifying and discussing your priority concerns for the watershed

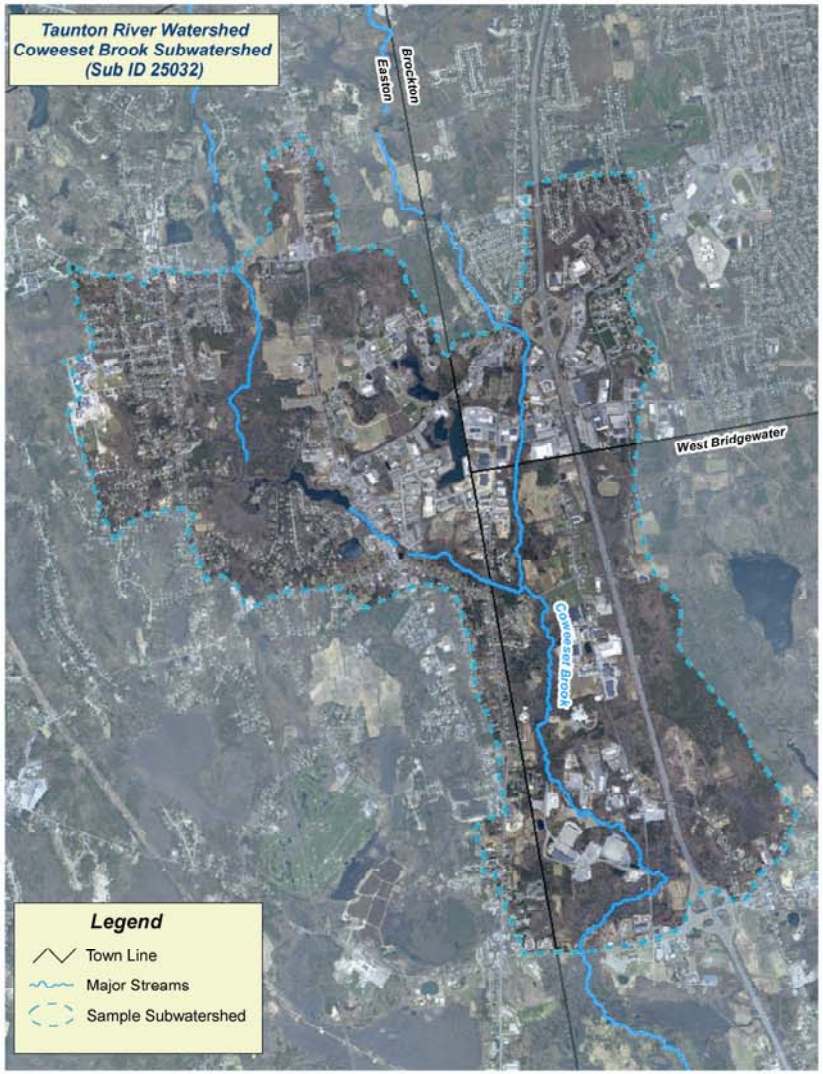
- Group Activity and discussion

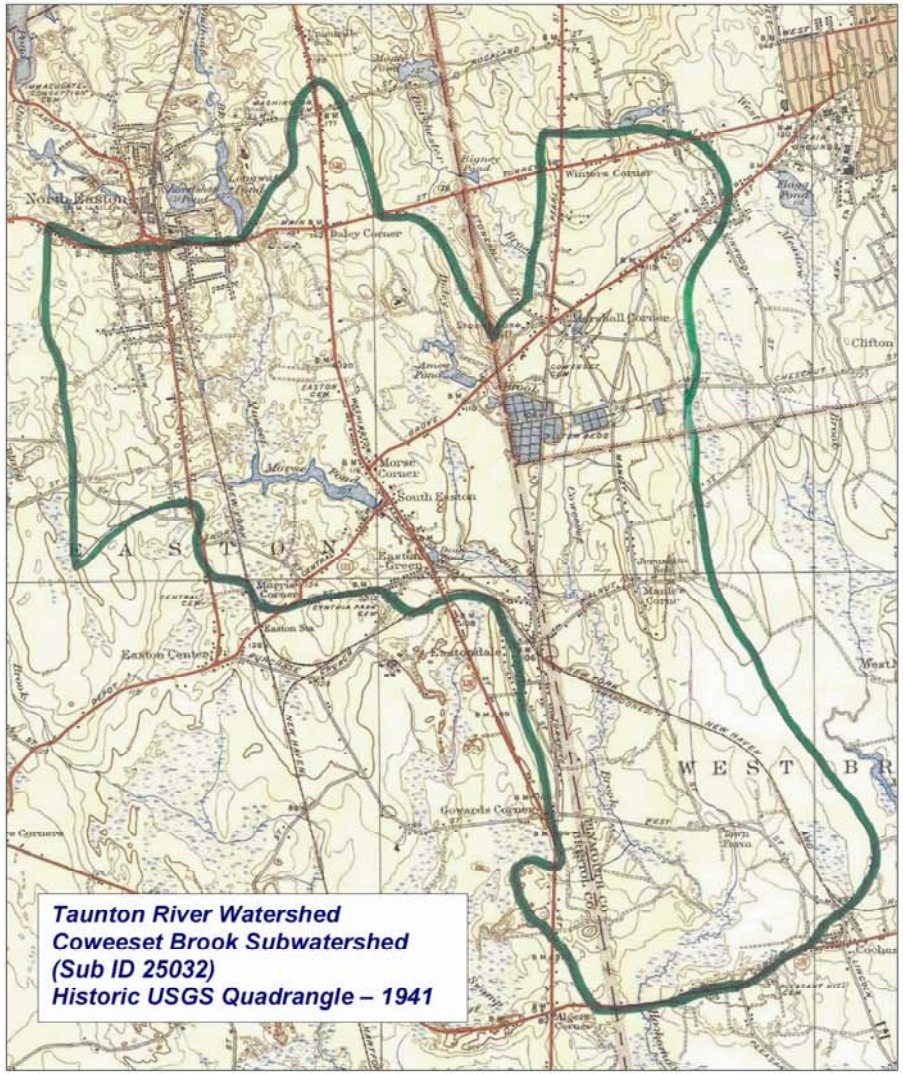
- Individual "Dot Voting"

Horsley Witten Group

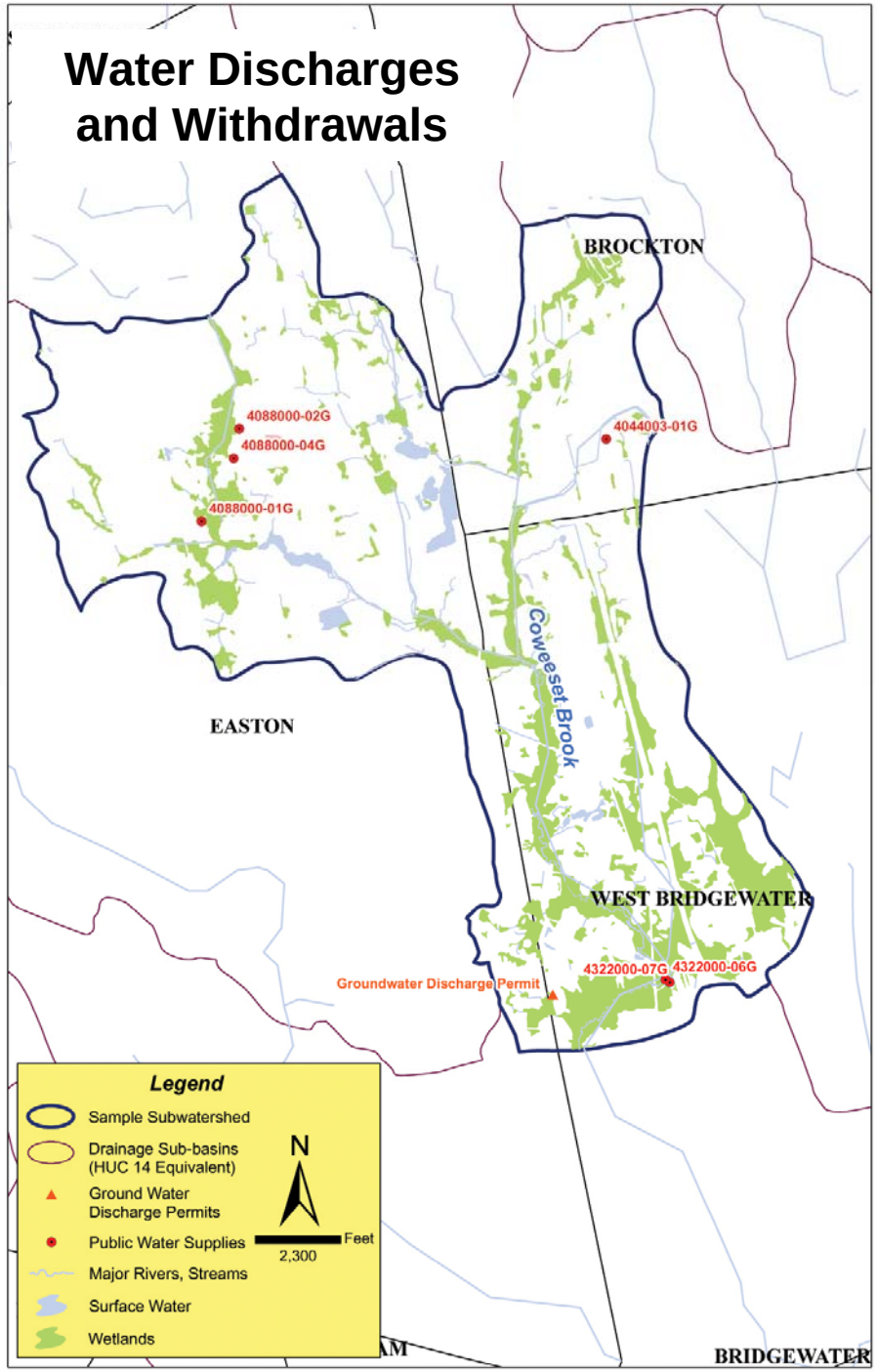

Taunton River Watershed
Coweeset Brook Subwatershed
(Sub ID 25032)
Legend
Taunton River Watershed
Major Watersheds
Coweeset Brook Subwatershed
Subwatersheds
Boston Harbor
Charles
Ten Mile
Narragansett Bay
South Coastal
QUINCY
BRAINTREE
WEYMOUTH
HINGHAM
COHASSET
SCITUATE
MEDFIELD
NORWOOD
CANTON
RANDOLPH
MILLIS
WALPOLE
NORWELL
HOLBROOK
ROCKLAND
HANOVER
MARSHFIELD
NORFOLK
STOUGHTON
AVON
ABINGTON
SHARON
BROCKTON
WHITMAN
PEMBROKE
DUNBURY
FOXBOROUGH
HANSON
EASTON
EAST BRIDGEWATER
WEST BRIDGEWATER
MANSFIELD
HALIFAX
KINGSTON
NORTH ATTLEBOROUGH
BRIDGEWATER
NORTON
PLYMPTON
ATTLEBORO
RAYNHAM
PLYMOUTH
TAUNTON
MIDDLEBOROUGH
CARVER
REHOBOTH
BERKLEY
LAKEVILLE
SWANSEA
FREETOWN
ROCHESTER
RHODE ISLAND
FALL RIVER
ACUSHNET
NEW BEDFORD


Taunton River Watershed
Coweeset Brook Subwatershed
(Sub ID 25032)
Easton
Brockton
West Bridgewater
Coweeset Brook
Legend
Town Line
Major Streams
Sample Subwatershed


Taunton River Watershed
Coweeset Brook Subwatershed
(Sub ID 25032)
Easton
Brockton
West Bridgewater
Coweeset Brook
Legend
Town Line
Major Streams
Sample Subwatershed

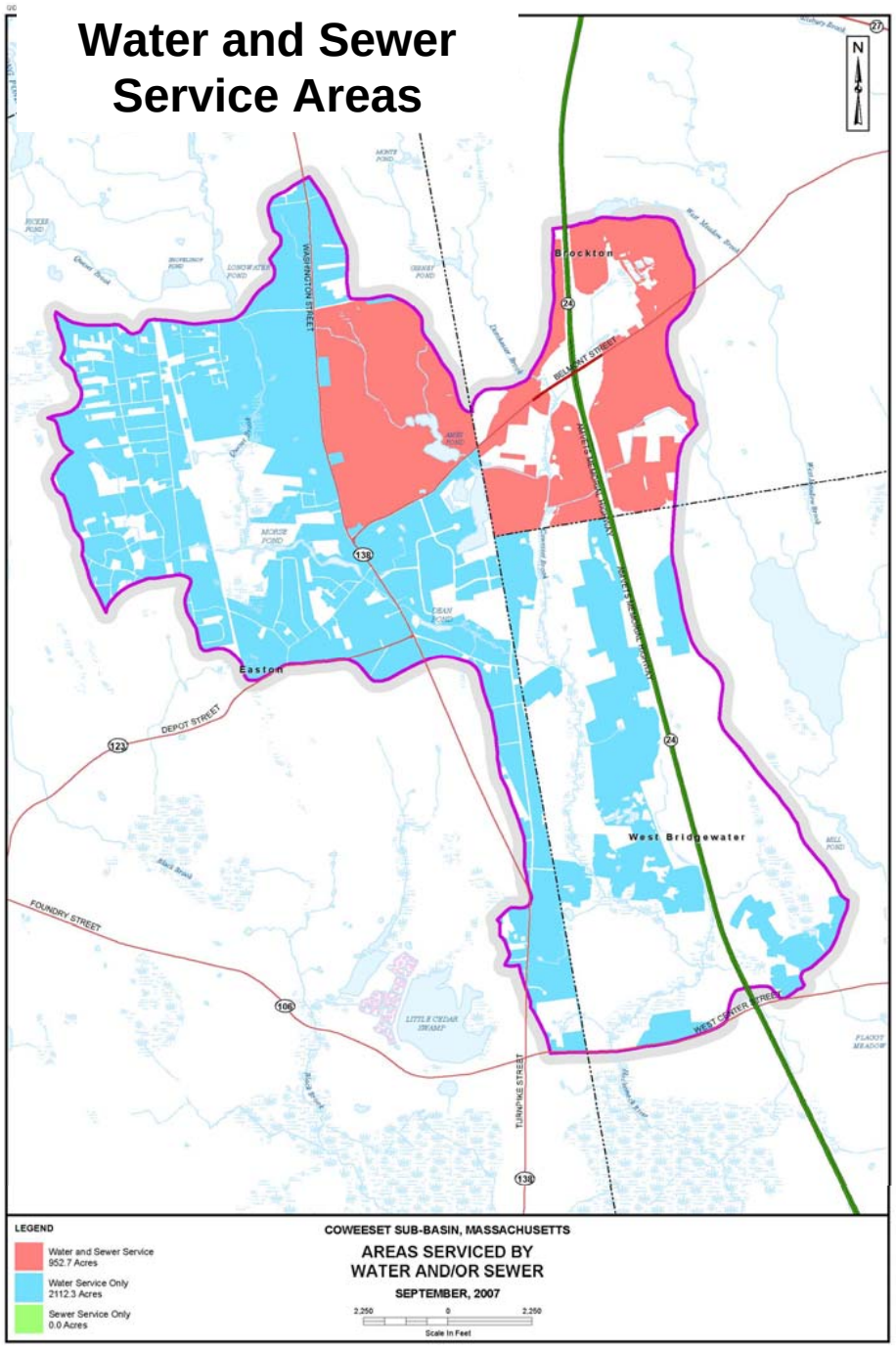

Taunton River Watershed
Coweeset Brook Subwatershed
(Sub ID 25032)
Historic USGS Quadrangle – 1941

Water Discharges and Withdrawals

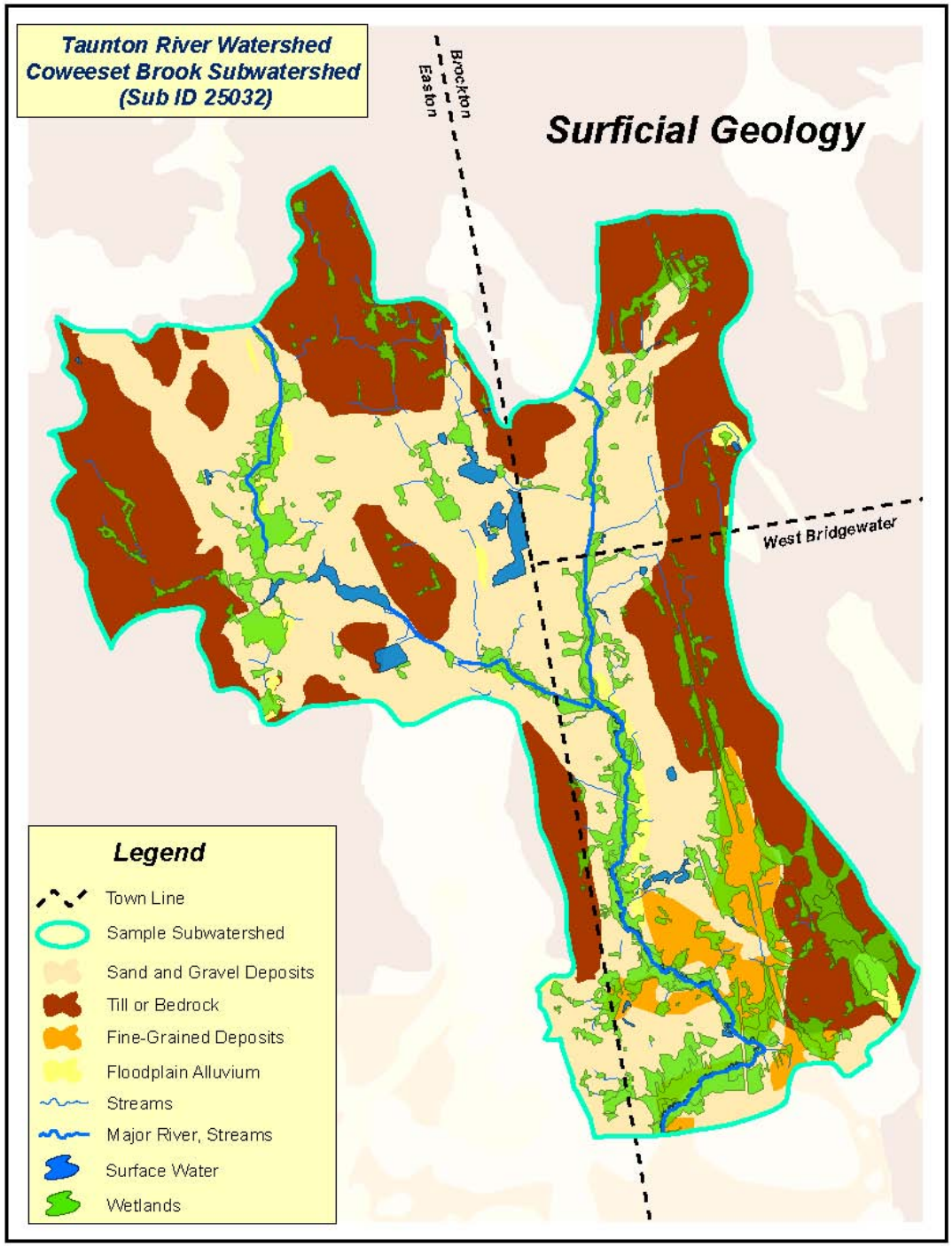


Horsley Witten Group

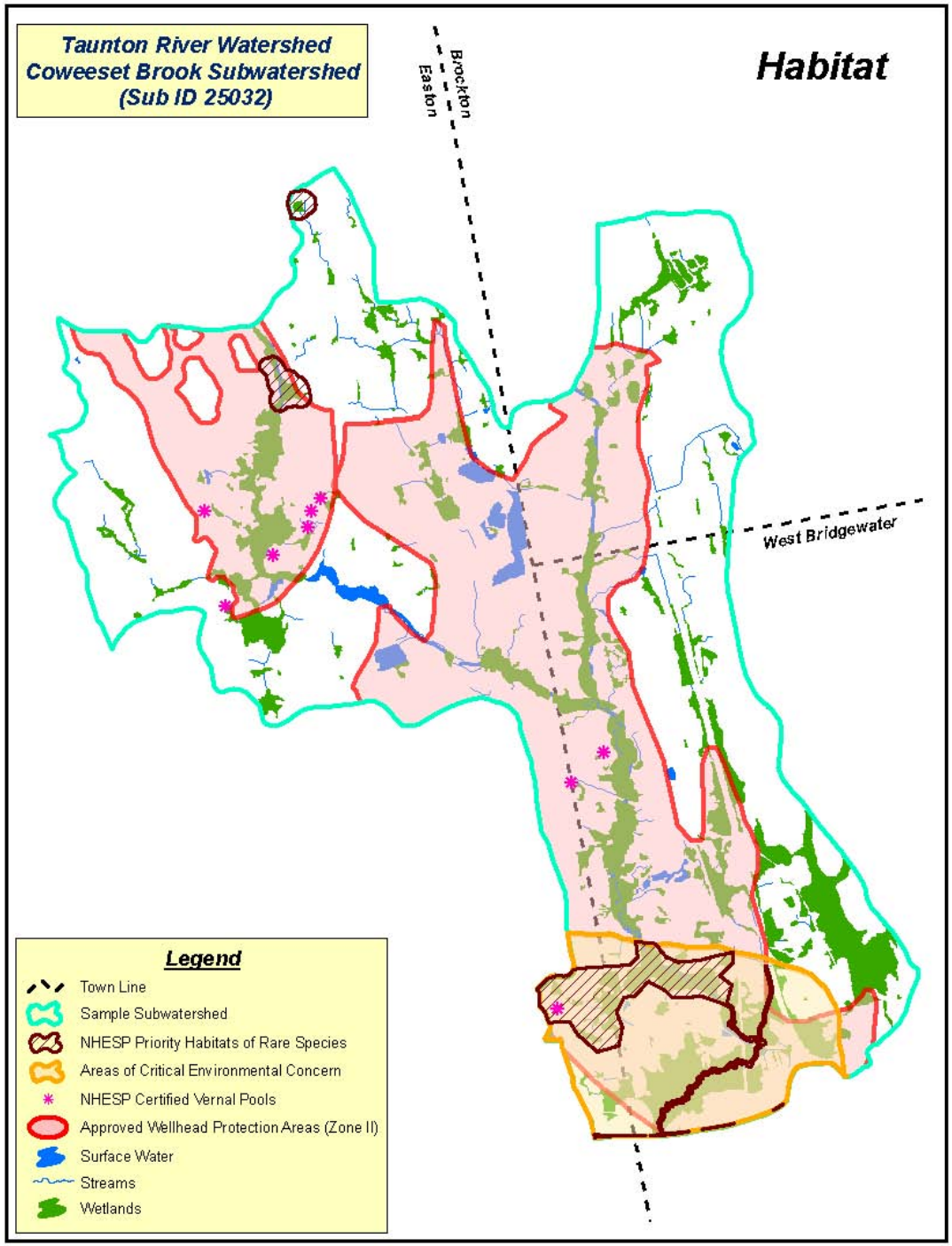
Water and Sewer Service Areas



Horsley Witten Group



Horsley Witten Group



Horsley Witten Group

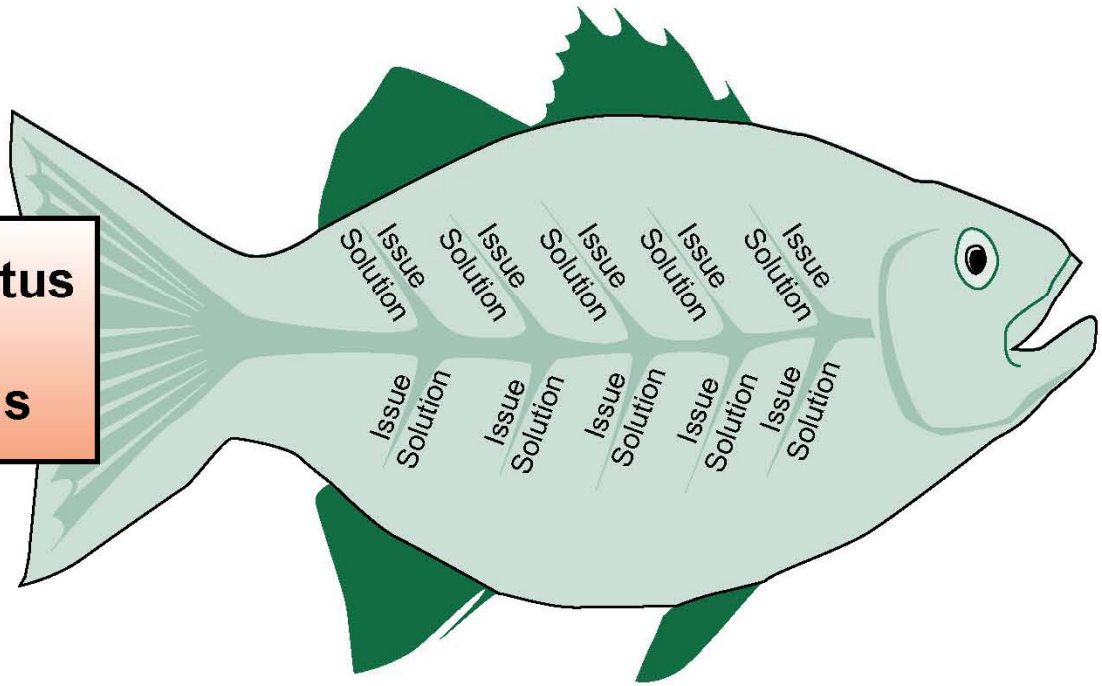
Hypothetical Issues/Concerns

- Water Imbalance ??
- Water loss from this watershed in sewer system ??
- Impervious cover preventing recharge ??
- Encroachment on wetlands ??
- Rapid growth ??
- Flooding ??
- Public Education/ Awareness ??

Horsley Witten Group

Issue Prioritization Activity

Current Status or Conditions



Goal:

To restore and maintain a hydrologically and biologically connected and integrated watershed system to sustain healthy humans and wildlife.

In the Taunton watershed, my biggest concerns are:

(*In the right hand column, put them in order of priority, and describe potential solutions for your top 2 concerns on back page*)

The amount of public education and outreach about environmental issues	
The amount of public education for municipal staff, boards and commissions	
The way wastewater is being managed	
The way stormwater is being managed	
The extent of inappropriate development	
The quality of my drinking water	
The available quantity of my drinking water	
The quality of water in the rivers, streams and lakes	
The problems with local permitting, compliance and enforcement	
The effectiveness of my local bylaws/ordinances	
The amount of habitat, wetlands and open space being protected	
The cost of infrastructure repairs and maintenance	
Other: (*write in*)	
Other: (*write in*)	

Priority Concern #1:

Possible Solution:

Priority Concern #2:

Possible Solution:

Break up into Groups

Horsley Witten Group